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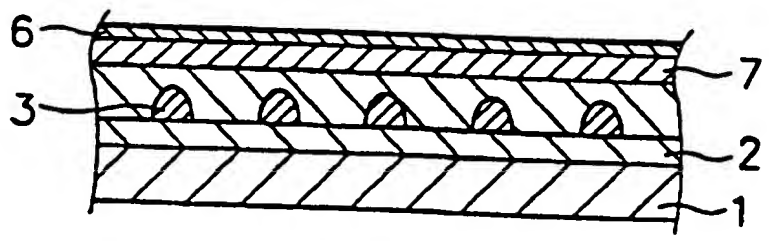
(54) Touch panel

(57) A touch panel with improved resistance to problems of cracking in an upper, resistive layer is made by substituting a phototransparent organic film 7 for the conventional resistive layer. As described the film 7 is formed of metal oxide powder in a polymer and has a resistivity of about 300-800 ohms/square. The panel has a transparent substrate 1 carrying a conductive layer 2, e.g. of indium tin oxide, a spacing layer 3, and the organic resistive film 7. The latter may be covered by a protective film structure (Fig. 4). The panel is stated to have an economic advantage in that it can be used perpetually if the conductive film in the lower part is not impaired.

FIG. 3



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TOUCH PANEL

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This invention relates to a touch panel, more particularly, to a touch panel in which the contact conductive layer is substituted with phototransparent organic conductive films to give conductivity per se, thus not requiring coating process of conductive layer and resolving problems of crack owing to the conductive layer.

A touch input system including a touch panel which determines the position of an object which is in contact with a contact surface, has been used variously in the fields of computer graphics, design and manufacturing systems using computers. The touch system denotes a system consisting of a digitizer which responds to a touch on a distinctive position of a contact surface, and can be driven by touching with a finger of an operator because of a transparent covering layer on a conductive surface.

The driving principle of a touch panel in the touch panel system is as follows:

A contact surface of a touch panel has equal specific electric resistance and is connected to an

CLAIMS

1. A touch panel comprising:

a substrate made of a transparent insulated material;

a substrate conductive layer formed on said substrate;

a dot space formed between said substrate conductive layer and a contact conductive layer; and

a contact conductive layer causing change of electric resistance by external contact on said dot space.

2. The touch panel of claim 1, wherein said contact conductive layer consists of a phototransparent organic conductive film.

3. The touch panel of claim 2, wherein said contact conductive layer further comprises a phototransparent conductive coating layer on one or both sides of the phototransparent organic conductive film.

4. The touch panel of claim 2, wherein said contact conductive layer further comprises a protective film layer on said phototransparent organic conductive film.

5. The touch panel of any one of claim 1 to claim 4, wherein said contact conductive layer further comprises a hardcoating layer on the surface thereof.

6. The touch panel of claim 2, wherein said phototransparent organic conductive film is simply manufactured by the method that white powder of metal

oxides consisting of indium oxide, antimony oxide, or tin oxide, etc. are added to an ordinary polymer for the formation of films to have the resistance value of 300 - 800 Ω/□ of the mixed polymer.

7. A touch panel substantially as described herein, with reference to the accompanying drawings.

FIG. 1

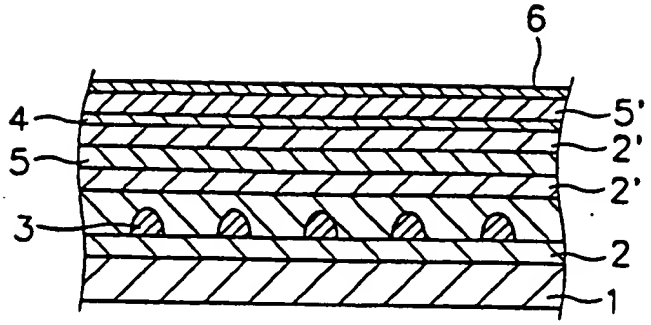

FIG. 2

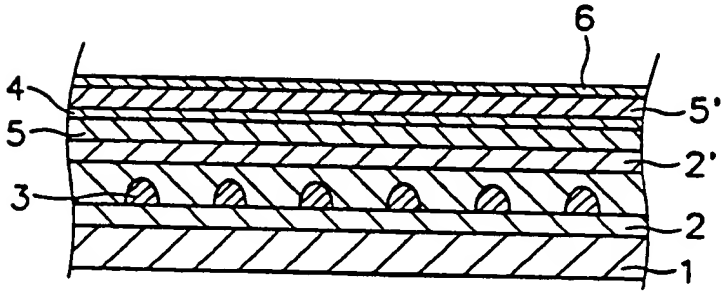

FIG. 3

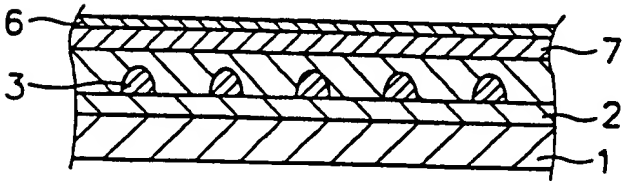

FIG. 4